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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,110	08/29/2003	Constantin Bucur	O2MICRO 03.18	9841
32047	7590	10/19/2006	EXAMINER	
GROSSMAN, TUCKER, PERREAULT & PFLEGER, PLLC 55 SOUTH COMMERICAL STREET MANCHESTER, NH 03101			TIBBITS, PIA FLORENCE	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/652,110

Applicant(s)

BUCUR ET AL.

Examiner

Pia F. Tibbits

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 7-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/8/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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**DETAILED ACTION**

This Office action vacates and replaces the previous action mailed 10/4/2006 and is in answer to the RCE and amendment filed 7/31/2006 and the IDS filed 8/8/2006. Claims 1-3, 7-13 are pending, claims 14-38 are canceled, and claim 1 is amended.

***Priority***

1. This application is a continuation in part of 10/364228, and a continuation in part of 09/960453.

**Filing Date of U.S. Parent Application** can only be used as the 35 U.S.C. 102(e) date if it supports the claims of the issued child. See ***MPEP 2163.03***. In order to carry back the 35 U.S.C. 102(e) critical date of the U.S. patent reference to the filing date of a parent application, the U.S. patent reference must have a right of priority to the earlier date under 35 U.S.C. 120 or 365(c) and the parent application must support the invention claimed as required by 35 U.S.C. 112, first paragraph. "For if a patent could not theoretically have issued the day the application was filed, it is not entitled to be used against another as secret prior art" under 35 U.S.C. 102(e). ***In re Wertheim***, 646 F.2d 527, 537, 209 USPQ 554, 564 (CCPA 1981). In other words, there is no support in either parent case for the claimed recitation "wherein when said first and second switches are closed said controllable DC power source and said rechargeable battery are in a **parallel power supply mode** to permit both said controllable DC power source and said rechargeable battery to supply power to said system load". Therefore the priority date for the "**in part**" portion of the instant application is the filing date of the instant application, 8/29/2003.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-3 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Williams** [6087110] in view of **JP-2002369407** in view of **Potega** [6459175].

Williams discloses in figures 1-11D a power supply topology comprising:

a first path configured to be coupled to a DC power source C1;

a second path configured to be coupled to a battery B1;

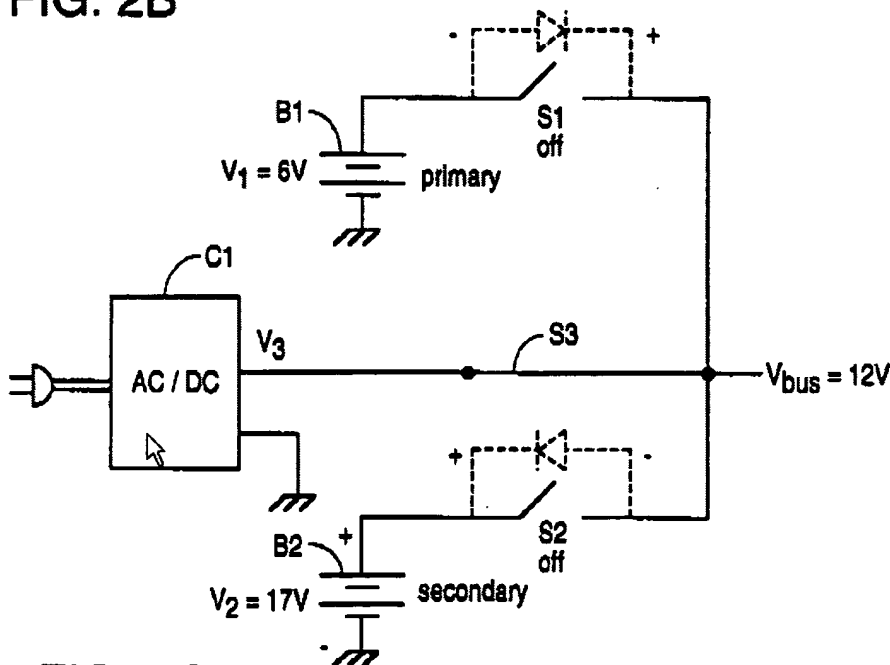
a third path configured to be coupled to a system load  $V_{bus}$ , wherein said first, second, and third paths are coupled to a common node [see fig.2C].

a first switch S3 coupled to said first path to allow selective coupling of said controllable DC power source to said system load via said common node;

and a second switch S1 coupled to said second path to allow selective coupling of said battery to said common node,

Williams does not disclose specifically wherein when said first and second switches are closed said controllable DC power source and said rechargeable battery are in a parallel power supply mode to permit both said DC power source and said rechargeable battery to supply power to said system load.

**FIG. 2B**



**FIG. 2C**

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However, the patent also discloses at column 2, lines 44-46:

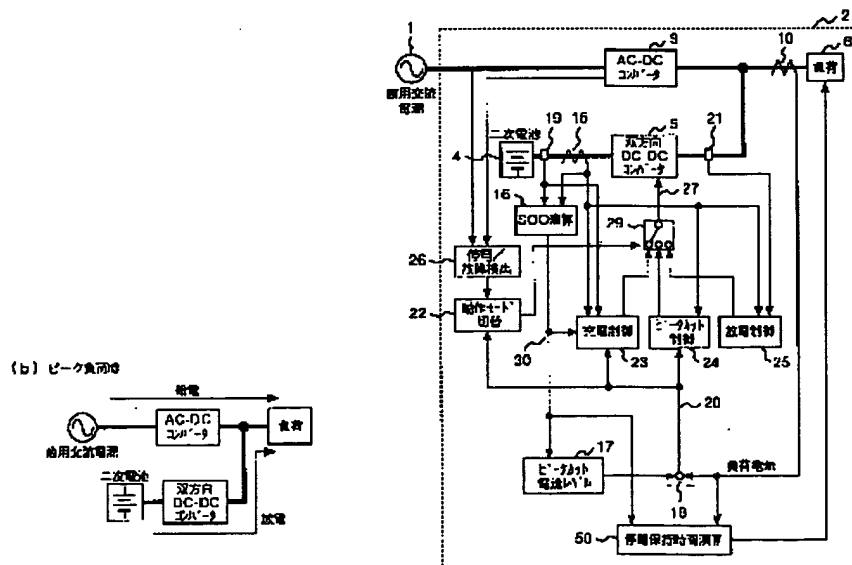
(12) The use of a source-body short has the effect of creating a diode across the drain and body terminals of the MOSFET which is electrically in parallel with the MOSFET. For an N-channel device, the cathode of the diode

and at column 2, lines 63-65:

flow of current through the switches. If the polarity of the voltages across the switches were reversed, the antiparallel diodes would become forward-biased.

In other words both switches S1 and S3 would be on.

Additionally, JP-2002369407 discloses in figures 1-10 and abstract a power supply topology where a secondary battery 4 connected on the DC output side of an AC-to-DC converter 3 flows a discharging current of a specified peak-cut level or higher to flow, when a load is at a peak to reduce the capacity of an AC-to-DC converter with respect to a peak load, and to reduce cost and reduce the volume of a power supply unit. Furthermore, an optimum peak cut level that is according to SOC of the secondary battery 4 and a load pattern is set automatically, and is changed dynamically.



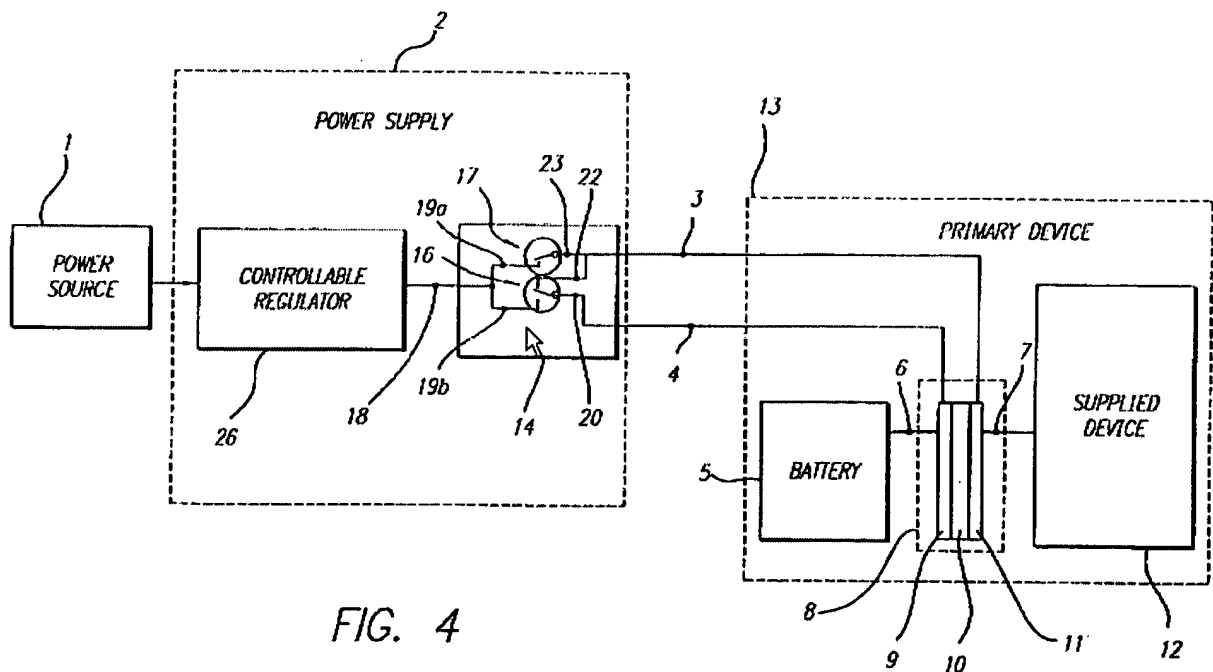
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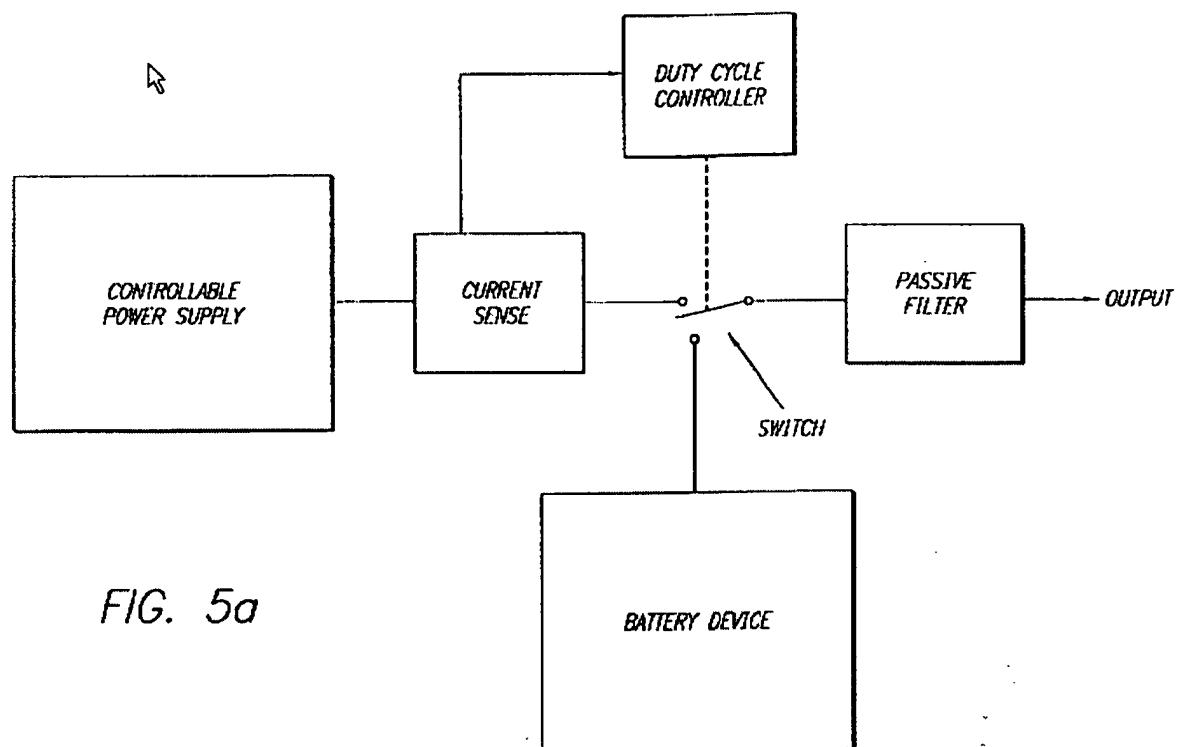
Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Williams's apparatus and include JP-2002369407 teachings in order to reduce the capacity of an AC-to-DC converter with respect to a peak load, and to reduce cost and reduce the volume of a power supply unit, as well as to have a load pattern set automatically, and changed dynamically according to SOC of the secondary battery.

Williams and JP-2002369407 do not disclose a controllable DC power source.

Potega discloses a power source 2

I To simplify the discussion of **power supply 2**, an input voltage to primary device 13 is assumed to be a specific voltage, here 12 VDC. **Power supply 2** is a variable-voltage **power supply** appropriately configured to deliver a range of output voltages, such as from -24 to +24 VDC, so that there is a particular voltage which is compatible with any of a wide variety of primary devices such as primary device 13 (e.g., here identified as 12 VDC). Primary



*FIG. 5a*

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the (Williams and JP-2002369407) apparatus and include a controllable DC power source in order to be able to deliver a range of output voltages.

As to claims 2, 3, see remarks and references above.

As to claim 7, Potega discloses wherein said controllable DC power source comprises a DC/DC converter [see fig.6; fig.10; column 1, line 18; column 6, line 57; column 41, lines 3-5; column 48, lines 11-14; column 53, lines 44-46].

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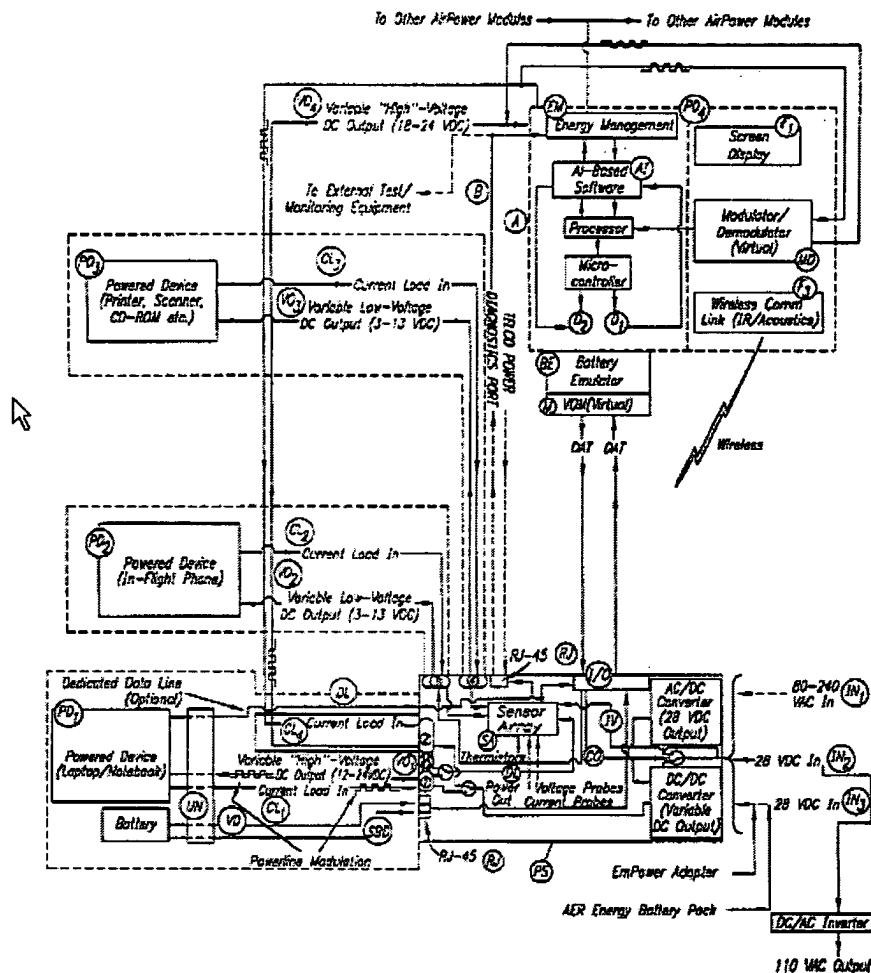


FIG. 6

As to claims 8-13, see remarks and references above.

### Response to Arguments

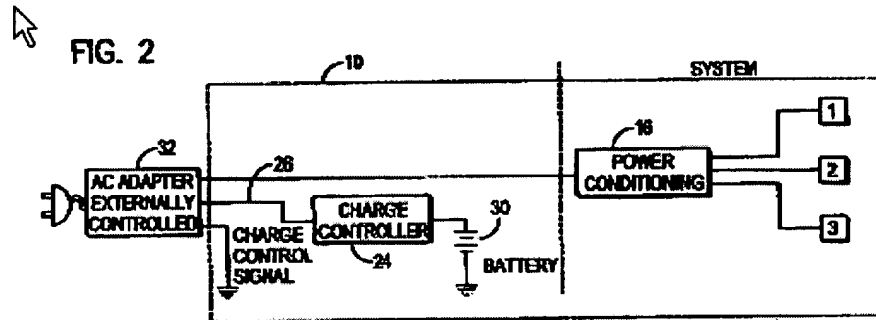
4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new grounds of rejection. Applicant amended independent claim 1 to include " wherein when said first and second switches are closed said controllable DC power source and said rechargeable battery are in a parallel power supply mode to permit both said controllable DC power source and said rechargeable battery to concurrently supply power to said system load", which is new issue.



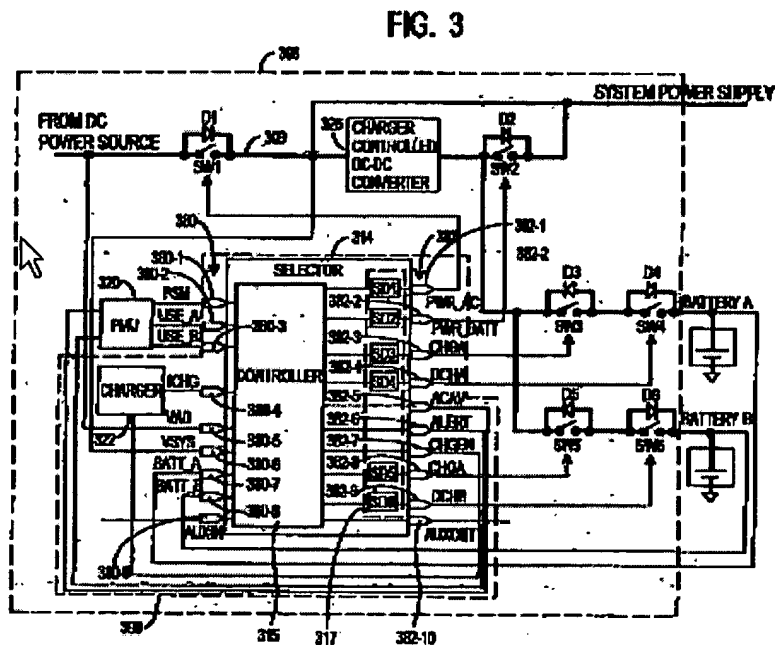
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5. Applicant's arguments that the claimed limitations have antecedence in the parent cases have been fully considered but they are not persuasive.

a) Parent case 09960453 discloses powered management for battery-powered appliances:



b) Parent case 10364228 discloses a selector circuit for power management in multiple battery systems:



### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus: **Kanouda et al.** [6977448] is the US equivalent of **JP-2002369407**, used as a reference above; **GB-2303979**, prior art disclosed by applicant, discloses a power supply topology supplying the DC power to a load 3 through a DC/DC converter, wherein the DC backup power supply system is connected to the information apparatus so as to supply the DC power to the load 3 through the DC/DC converter generating DC current of various voltages needed for operating the UPS 1, and a load 3 [see abstract; fig.2; page 16]. **Williams** [5536977], prior art disclosed by applicant, discloses in figures 1-11D a power supply topology comprising: a first path configured to be coupled to a controllable DC power source; a second path configured to be coupled to a battery B1; a third path configured to be coupled to a system load L, wherein said first, second, and third paths are coupled to a common node B; a first switch S3 coupled to said first path to allow selective coupling of said controllable DC power source C3 to said system load L via said common node B; and a second switch S1 coupled to said second path to allow selective coupling of said battery B1 to said common node B.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is 571-272-2086. If unavailable, contact the Supervisory Patent Examiner Karl Easthom whose telephone number is 571-272-1989. The Technology Center Fax number is 571-273-8300.
8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PFT

October 11, 2006

Pia Tibbits

Primary Patent Examiner

